This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (previously presented): A method for compensating signal changes of a plurality of single signals forming an optical wavelength-division multiplex signal caused by cross phase modulation in a fiber amplifier, said method comprising the steps of:

coupling out a part of the entire optical wavelength-division multiplex signal;

generating a control signal from the part of said optical wavelength-division multiplex signal, said control signal controlling a phase modulator; and

supplying said optical wavelength-division multiplex signal to said phase modulator and modulating the optical wavelength-division multiplex signal by said control signal such that signal changes of said plurality of single signals caused by cross phase modulation are at least largely compensated.

Claim 2 (original): The method as claimed in claim 1, further comprising the steps of:

tapping an optical measurement signal off of said optical wavelength-division multiplex signal;

converting said optical measurement signal by opto-electrical conversion into an electrical measurement signal; and

converting said electrical measurement signal into said control signal by an adjustable amplifier.

Claim 3 (previously presented): The method as claimed in claim 2, further comprising the step of delaying said optical wavelength-division multiplex signal supplied to said phase modulator with respect to said optical measurement signal.

Claim 4 (original): The method as claimed in claim 1, further comprising the step of measuring signal changes at an output of said phase modulator and controlling said control signal.

Claim 5 (previously presented): An arrangement for compensating signal changes of a plurality of single signals forming an optical wavelength-division multiplex signal caused by cross phase modulation in a fiber amplifier, having a control circuit comprising:

a measurement coupler which couples out a part of said entire wavelength-division multiplex signal as an optical measurement signal;

an opto-electrical converter which converts said optical measurement signal into an electrical measurement signal;

an electrical amplifier that has an input supplied by said electrical measurement signal and an output which is an amplified measurement signal as a control signal; and

a phase modulator having a signal input and a modulation input, said wavelength-division multiplex signal being supplied to said signal input, and said control signal being supplied to said modulation input, a gain being selected such that signal changes of said plurality of single signal by cross phase modulation are at least largely compensated when said phase modulator outputs a wavelength-division multiplex signal.

Claim 6 (original): The arrangement as claimed in claim 5, wherein said electrical amplifier is adjustable.

Claim 7 (original): The arrangement as claimed in claim 5, wherein said wavelength-division multiplex signal is delayed between said measurement coupler and said phase modulator.

Claim 8 (original): The arrangement as claimed in claim 5, wherein at least one of said measurement coupler and said phase modulator is inserted between a number of sections of an amplifier fiber.

Claim 9 (original): The arrangement as claimed in claim 5, wherein said arrangement is connected immediately before or after said fiber amplifier.

Claim 10 (new): A method for compensating signal changes of a plurality of single signals forming an optical wavelength-division multiplex signal caused by cross phase modulation in a fiber amplifier, the method comprising:

coupling out a portion of the entire optical wavelength-division multiplex signal, wherein the coupled out portion of the optical wavelength-division multiplex signal contains a portion of each wavelength of the optical wavelength-division multiplex signal;

generating a control signal from the portion of the optical wavelength-division multiplex signal, the control signal controlling a phase modulator; and

supplying the optical wavelength-division multiplex signal to the phase modulator and modulating the optical wavelength-division multiplex signal by the control signal such that signal changes of the plurality of single signals caused by cross phase modulation are at least largely compensated.

Claim 11 (new): An arrangement for compensating signal changes of a plurality of single signals forming an optical wavelength-division multiplex signal caused by cross phase modulation in a fiber amplifier comprising:

a measurement coupler that couples out a part of the entire wavelength-division multiplex signal as an optical measurement signal wherein the coupled out portion of the optical wavelength-division multiplex signal contains a portion of each wavelength of the optical wavelength-division multiplex signal;

an opto-electrical converter that converts the optical measurement signal into an electrical measurement signal;

an electrical amplifier that has an input supplied by said electrical measurement signal and an output that is an amplified measurement signal as a control signal; and

a phase modulator having a signal input and a modulation input, the wavelength-division multiplex signal being supplied to said signal input, and the control signal being supplied to said modulation input, a gain being selected such that signal changes of said plurality of single signal by cross phase modulation are at least largely compensated when said phase modulator outputs a wavelength-division multiplex signal.